



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/655,842	09/06/2000	Kiyoshi Ueyoko	0229-0608P	9804

7590 04/01/2003

Birch Stewart Kolasch & Birch.LLP
P O Box 747
Falls Church, VA 22040-0747

EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 04/01/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/655,842

Applicant(s)

UEYOKO ET AL.

Examiner

Justin R Fischer

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 and 7 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iuchi (US 4,319,622, of record) in view of Kuroda (US 4,088,169, of record), Lejune (US 3,949,800, of record), and Ohara (US 6,273,162, newly cited). As set forth in Paper Number 9, Paragraph 3, Iuchi (Figure 2) depicts the claimed fiber reinforced rubber spacer in which a rubber layer 9 is disposed between the wound fabric 10 and the bead core. While it is recognized that Iuchi does not expressly describe the claimed dimension "L1", the broad range of the claimed invention suggests a conventional design parameter that is used extensively in similar bead portion structures, as shown for example by Kuroda and depicted by Iuchi. However, Iuchi, in view of Kuroda, is completely silent with respect to (a) the winding of said fabric between two and three times around the bead and (b) the hardness of said rubber layer with respect to the bead apex rubber. Regarding the number of windings, Iuchi (Column 2, Lines 55-56) broadly describes "lapping a rubber coated fabric around the core" and although the Figures of Iuchi fail to expressly depict an embodiment in which 2-3 windings are provided, one of ordinary skill in the art at the time of the invention would have found such a construction obvious since it is well known in the tire industry that multiple

Art Unit: 1733

windings can be provided to obtain a desired separation from the adjacent carcass plies, as shown for example by Ohara (Figure 3 and Column 4, Lines 23-28). It is further noted that applicant has failed to provide any conclusive showing of unexpected results to establish a criticality for winding the fabric between 2 and 3 times around the respective bead cores. With respect to the hardness of the rubber layer 9, a variety of rubber layers, including those with a lower, the same, or a higher hardness value, as compared to the bead apex rubber, have been used between the wound fabric and the bead core. Kuroda states that the rubber layer should have a hardness that is **at least equal to** the lower hardness of the coating rubber of either one of a rubberized metal cord layer and the rubberized fabric (Column 4, Lines 12-16), thus suggesting several embodiments in which the rubber layer hardness is the same, lower, or higher than the apex hardness. Also, Lejune describes a similar rubber layer in which the apex rubber has a lower hardness than the rubber layer or stuffing rubber (Column 3, Lines 63-68). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the rubber layer of luchi out of a harder rubber, as compared to the bead apex rubber, since it is well known to use many types of rubber, including harder rubbers in view of Lejune, and applicant has not provided any unexpected results to establish a criticality for the hardness relationship of the claimed invention, wherein one of ordinary skill in the art at the time of the invention would have been able to select the appropriate rubber in view of the desired reinforcement in the bead portion. Lastly, a range of 50 to 85 Shore A hardness for the rubber coated fabric 10 of luchi defines an extremely broad and conventional range that one of ordinary skill in the art at the time of

Art Unit: 1733

the invention would have readily appreciated and expected. In particular, this broad range defines the well-known rubber compositions that are used as topping or coating compositions in the tire industry and as such, the use of a rubber having a Shore A hardness between 50 and 85 would have been obvious in the fabric of luchi.

Regarding the dimension "L1" noted above, Kuroda teaches a similar bead portion in which a rubberized fabric 10 is wound around the bead core, such that a rubber layer 9 is disposed between said fabric and said bead core. The reference further suggests that the rubber layer, which defines the distance "L1" in both luchi and Kuroda, can have a thickness that ranges between 0.7 and 6 times the diameter of the bead core reinforcing element (Abstract). Thus, it is clearly evident that almost all of the embodiments detailed by Kuroda would have a distance "L1" that was greater than 0.05 times the bead core height. Therefore, applicant defines a broad and conventional range that, in addition to being depicted by luchi, is clearly outlined by Kuroda.

With respect to the number of windings, Ohara recognizes the ability to provide a bead fabric having multiple windings, specifically stating "a single layer at least". While the reference describes a preferred use of two windings, as depicted in Figure 3, Ohara provides a more general teaching that multiple windings (at least one) can be included, wherein the number of windings would be dependent on the desired spacing between the bead core and the carcass plies. Thus, the use of between 2 and 3 windings would have been within the purview of one of ordinary skill in the art at the time of the invention in view of Ohara, there being no conclusive showing of unexpected results to establish a criticality for such a construction.

Allowable Subject Matter

3. Claims 6 and 7 are allowed. The following is an examiner's statement of reasons for allowance:

There was no reference in the prior art search that suggested the manufacture of a pneumatic tire in which a single rubber strip is initially wound around the bead core, in accordance to the limitations of the claimed invention, and subsequently shifted to extend radially outward along the carcass ply main portion, such that the radially outer end of said rubber strip is located at a position that is between 0.05 and 1.0 times the bead core height, wherein a rubber layer (a) is disposed between a bead core and said rubber strip, (b) is composed of a rubber formulation that is harder than the adjacent bead apex, and (c) forms a thickness, along with the rubber strip, between the inner end of the rubber layer and the outer end of the rubber strip that is between 0.05 and 1.0 times the height of the bead core.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(703) 605-4397**. The examiner can normally be reached on M-F (7:30-4:00).

Art Unit: 1733

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Justin Fischer

March 25, 2003


Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700